Listing of Claims:

1. (Currently Amended) A method for processing image signals, comprising:

reading an image recorded on a recording medium so as to generate image signals representing said image;

applying, to said image signals, a multi-resolution conversion processing of at least level 1, which is capable of reducing an image size of said image signals, so as to generate first-converted image signals from said image signals; and

applying a Dyadic Wavelet transform of at least level 1 to ~~low~~ lowest frequency band component signals included in said first-converted image signals, so as to generate second-converted image signals from said first-converted image signals;

wherein no down-sampling is performed in said Dyadic Wavelet transform, and wavelet function $\Psi_{i,j}(x)$ to be employed in said Dyadic Wavelet transform is defined by an equation shown below:

$$\psi_{i,j}(x) = 2^{-i}\,\psi\left(\frac{x-j}{2^{i}}\right)$$

where "i" denotes a natural number; and

wherein an image size of said first-converted image signals is smaller than the image size of said image signals, while an image size of said second-converted image signals is identical to the image size of said first-converted image signals.

2. (Previously Presented) The method of claim 1, further comprising:

applying a first image processing to said second-converted image signals generated by applying said Dyadic Wavelet transform.

3. (Previously Presented) The method of claim 1, further comprising:

applying a first image processing to high frequency band component signals included in said second-converted image signals generated by applying said Dyadic Wavelet transform.

4. (Previously Presented) The method of claim 3, wherein said first image processing comprises suppressing a signal intensity of a specific pixel, which fulfils a predetermined condition established in advance among pixels represented by said high frequency band component signals.

5. (Previously Presented) The method of claim 2, further comprising:

applying a second image processing to said first-converted image signals generated by applying said multi-resolution conversion processing.

6. (Previously Presented) The method of claim 2, further comprising:

applying a second image processing to high frequency band component signals included in said first-converted image signals generated by applying said multi-resolution conversion processing.

7. (Previously Presented) The method of claim 6, wherein said second image processing comprises suppressing a signal intensity of a specific pixel, which fulfils a predetermined condition established in advance among pixels represented by said high frequency band component signals.

8. (Previously Presented) The method of claim 1, wherein said multi-resolution conversion is an orthogonal wavelet conversion or a bi-orthogonal wavelet conversion.

9. (Previously Presented) The method of claim 1, further comprising:

determining a changeover level from said multi-resolution conversion processing to said Dyadic Wavelet transform, based on a resolution of said read image signals;

wherein said multi-resolution conversion processing is applied to said image signals according to said determined

changeover level, and said Dyadic Wavelet transform is applied to said low frequency band component signals according to said determined changeover level determined.

10. (Currently Amended) An apparatus for processing image signals, comprising:

a reading section to read an image recorded on a recording medium so as to generate image signals representing said image;

a first converting section to apply a multi-resolution conversion processing of at least level 1, which is capable of reducing an image size of said image signals, to said image signals read by said reading section, so as to generate first-converted image signals from said image signals; and

a second converting section to apply a Dyadic Wavelet transform of at least level 1 to low frequency band component signals included in said first-converted image signals generated by said first converting section, so as to generate second-converted image signals from said first-converted image signals;

wherein no down-sampling is performed in said Dyadic Wavelet transform, and wavelet function $\Psi_{i,j}(x)$ to be employed in said Dyadic Wavelet transform is defined by an equation shown below:

$$\psi_{i,j}(x) = 2^{-i}\,\psi\left(\frac{x - j}{2^{i}}\right)$$

where "i" denotes a natural number; and

wherein an image size of said first-converted image signals is smaller than the image size of said image signals, while an image size of said second-converted image signals is identical to the image size of said first-converted image signals.

11. (Original) The apparatus of claim 10, further comprising:

a first image-processing section to apply a first image processing to said second-converted image signals generated by said second converting section.

12. (Original) The apparatus of claim 10, further comprising:

a first image-processing section to apply a first image processing to high frequency band component signals included in said second-converted image signals generated by said second converting section.

13. (Previously Presented) The apparatus of claim 12, wherein said first image processing comprises suppressing a signal intensity of a specific pixel, which fulfils a predetermined condition established in advance among pixels represented by said high frequency band component signals.

14. (Original) The apparatus of claim 11, further comprising:

a second image-processing section to apply a second image processing to said first-converted image signals generated by said first converting section.

15. (Original) The apparatus of claim 11, further comprising:

a second image-processing section to apply a second image processing to high frequency band component signals included in said first-converted image signals generated by said first converting section.

16. (Previously Presented) The apparatus of claim 15, wherein said second image processing comprises suppressing a signal intensity of a specific pixel, which fulfils a predetermined condition established in advance among pixels represented by said high frequency band component signals.

17. (Original) The apparatus of claim 10, wherein said multi-resolution conversion is an orthogonal wavelet conversion or a bi-orthogonal wavelet conversion.

18. (Original) The apparatus of claim 10, further comprising:

a determining section to determine a changeover level from said multi-resolution conversion processing to said Dyadic Wavelet transform, based on a resolution of said image signals read by said reading section;

wherein said first converting section applies said multi-resolution conversion processing to said image signals according to said changeover level determined by said determining section, and said second converting section applies said Dyadic Wavelet transform to said low frequency band component signals according to said changeover level determined by said determining section.

19. (Currently Amended) A computer readable storage medium storing a computer program that is executable by a computer to cause the computer to conduct operations for processing image signals, the program being executable by [[a]] the computer to cause the computer to perform a process comprising:

reading an image recorded on a recording medium so as to generate image signals representing said image;

applying, to said read image signals, a multi-resolution conversion processing of at least level 1, which is capable of

reducing an image size of said image signals, so as to generate first-converted image signals from said image signals; and

applying a Dyadic Wavelet transform of at least level 1 to low frequency band component signals included in said first-converted image signals, so as to generate second-converted image signals from said first-converted image signals;

wherein no down-sampling is performed in said Dyadic Wavelet transform, and wavelet function $\Psi_{i,j}(x)$ to be employed in said Dyadic Wavelet transform is defined by an equation shown below:

$$\psi_{i,j}(x) = 2^{-i}\,\psi\left(\frac{x-j}{2^{i}}\right)$$

where "i" denotes a natural number; and

wherein an image size of said first-converted image signals is smaller than the image size of said image signals, while an image size of said second-converted image signals is identical to the image size of said first-converted image signals.

20. (Previously Presented) The computer readable storage medium of claim 19, wherein the process further comprises:

applying a first image processing to said second-converted image signals generated by applying said Dyadic Wavelet transform.

21. (Previously Presented) The computer readable storage medium of claim 19, wherein the process further comprises:

applying a first image processing to high frequency band component signals included in said second-converted image signals generated by applying said Dyadic Wavelet transform.

22. (Previously Presented) The computer readable storage medium of claim 21, wherein said first image processing comprises suppressing a signal intensity of a specific pixel, which fulfils a predetermined condition established in advance among pixels represented by said high frequency band component signals.

23. (Previously Presented) The computer readable storage medium of claim 20, wherein the process further comprises:

applying a second image processing to said first-converted image signals generated by applying said multi-resolution conversion processing.

24. (Previously Presented) The computer readable storage medium of claim 20, wherein the process further comprises:

applying a second image processing to high frequency band component signals included in said first-converted image signals generated by applying said multi-resolution conversion processing.

25. (Previously Presented) The computer readable storage medium of claim 24, wherein said second image processing comprises suppressing a signal intensity of a specific pixel, which fulfils a predetermined condition established in advance among pixels represented by said high frequency band component signals.

26. (Previously Presented) The computer readable storage medium of claim 19, wherein said multi-resolution conversion is an orthogonal wavelet conversion or a bi-orthogonal wavelet conversion.

27. (Previously Presented) The computer readable storage medium of claim 19, wherein the process further comprises:

determining a changeover level from said multi-resolution conversion processing to said Dyadic Wavelet transform, based on a resolution of said read image signals;

wherein said multi-resolution conversion processing is applied to said image signals according to said determined changeover level, and said Dyadic Wavelet transform is applied to said low frequency band component signals according to said determined changeover level.

28. (Currently Amended) An apparatus for recording an output image onto an outputting medium, comprising:

a reading section to read an image formed on a recording medium so as to generate image signals representing said image;

a processing section to process said image signals so as to generate output image signals representing said output image; and

a recording section to record said output image onto said outputting medium, based on said output image signals generated by said processing section;

wherein said processing section comprises:

a first converting section to apply a multi-resolution conversion processing of at least level 1, which is capable of reducing an image size of said image signals, to said image signals read by said reading section, so as to generate first-converted image signals from said image signals; and

a second converting section to apply a Dyadic Wavelet transform of at least level 1 to low frequency band component signals included in said first-converted image signals generated by said first converting section, so as to generate second-converted image signals from said first-converted image signals;

wherein no down-sampling is performed in said Dyadic Wavelet transform, and wavelet function $\Psi_{i,j}(x)$ to be employed in said Dyadic Wavelet transform is defined by an equation shown below:

$$\psi_{i,j}(x) = 2^{-i}\,\psi\left(\frac{x - j}{2^{i}}\right)$$

where "i" denotes a natural number; and

wherein an image size of said first-converted image signals is smaller than the image size of said image signals, while an image size of said second-converted image signals is identical to the image size of said first-converted image signals.

29. (Previously Presented) The apparatus of claim 28, wherein said processing section further comprises:

a first image-processing section to apply a first image processing to said second-converted image signals generated by said second converting section.

30. (Previously Presented) The apparatus of claim 28, wherein said processing section further comprises:

a first image-processing section to apply a first image processing to high frequency band component signals included in said second-converted image signals generated by said second converting section.

31. (Previously Presented) The apparatus of claim 30, wherein said first image processing comprises suppressing a signal intensity of a specific pixel, which fulfils a predetermined condition established in advance among pixels represented by said high frequency band component signals.

32. (Previously Presented) The apparatus of claim 29, wherein said processing section further comprises:

a second image-processing section to apply a second image processing to said first-converted image signals generated by said first converting section.

33. (Previously Presented) The apparatus of claim 29, wherein said processing section further comprises:

a second image-processing section to apply a second image processing to high frequency band component signals included in said first-converted image signals generated by said first converting section.

34. (Previously Presented) The apparatus of claim 33, wherein said second image processing comprises suppressing a signal intensity of a specific pixel, which fulfils a predetermined condition established in advance among pixels represented by said high frequency band component signals.

35. (Original) The apparatus of claim 28, wherein said multi-resolution conversion is an orthogonal wavelet conversion or a bi-orthogonal wavelet conversion.

36. (Previously Presented) The apparatus of claim 28, wherein said processing section further comprises:

a determining section to determine a changeover level from said multi-resolution conversion processing to said Dyadic Wavelet transform, based on a resolution of said image signals read by said reading section;

wherein said first converting section applies said multi-resolution conversion processing to said image signals according to said changeover level determined by said determining section, and said second converting section applies said Dyadic Wavelet transform to said low frequency band component signals according to said changeover level determined by said determining section.